

What Is Claimed Are:

1. An electronic ballast for a fluorescent lamp
5 having a power supply, a power supply unit, a DC transformation unit 200 and a lamp driving unit, being characterized in that:

the lamp driving unit 400 comprises:

10 a power separator 410 for separating a DC power supplied from the DC transformation unit 200 into a lamp power and a circuit driving power;

a constant-voltage unit 420 for making the circuit driving power supplied from the power separator 410 a constant voltage;

15 a switching signal generator 430 that is driven by the power supplied from the constant-voltage unit 420, for generating a pulse width modulation (PWM) signal corresponding to a capacitance of a lamp connected thereto to drive lamps having different capacitances or a plurality 20 of lamps;

a first transformer 440 for inducing the signal outputted from the switching signal generator 430 to a secondary side;

25 first and second field effect transistors T1 and T2 for performing a switching operation corresponding to the output signal from the secondary side of the first transformer 440, in order to generate a high voltage for turning on the fluorescent lamp;

30 second and third transformers 450 and 460 for generating a high voltage corresponding to the switching operation of the first and second field effect transistors T1 and T2; and

a plurality of bulbs 471 and 472 for turning on the

lamp(CF lamp) using the high voltage generated by the second and third transformers 450 and 460.

2. The electronic ballast claimed in claim 1,
5 wherein the electronic ballast is surrounded and protected by a case 1210 having a hole 1220 through which a lighting fixture can be easily coupled at the center of the case.

3. An electronic ballast for a fluorescent lamp
10 having a power supply 101, a power supply unit 610 and a DC transformation unit 500, comprising:

a DC power boosting unit 800 for boosting a power supplied from the DC transformation unit 500; and

15 a lamp driving unit 900 for selectively turning on a plurality of lamps (fluorescent lamps) using the voltage outputted from the DC power boosting unit 800.

4. The electronic ballast claimed in claim 3,
wherein the DC power boosting unit 800 comprises:

20 a constant-voltage unit 810 for making the DC power supplied from the DC transformation unit 500 a constant voltage;

25 a step-up controller 820 that is driven by the power supplied from the constant-voltage unit 810 to generate a switching signal for DC power step-up;

a field effect transistor T1 for performing a switching operation corresponding to the switching signal outputted from the step-up controller 820; and

30 a step-up transformer 830 for boosting the DC power outputted from the DC transformation unit 500 corresponding to the operation of the field effect transistor T1.

5. The electronic ballast claimed in claim 3,

wherein the DC power the booster 800 comprises:

a constant-voltage unit 910 for making the DC power supplied through an anti-backward current diode D7 a constant voltage;

5 a switching signal generator 920 that is driven by the power supplied from the constant-voltage unit 910, for generating a pulse width modulation (PWM) signal corresponding to a capacitance of a lamp connected thereto to drive lamps having different capacitances or a plurality 10 of lamps;

a first transformer 931 for inducing the signal outputted from the switching signal generator 920 to a secondary side;

15 first and second field effect transistors T2 and T3 for performing a switching operation corresponding to the output signal from the secondary side of the first transformer 931 in order to generate a high voltage for turning on the fluorescent lamp;

20 second and third transformers 932 and 933 for generating a high voltage corresponding to the switching operation of the first and second field effect transistors T2 and T3; and

25 a plurality of bulb 941 and 942 for turning on the lamp (CF lamp) using the high voltage generated by the second and third transformers 932 and 933.

6. The electronic ballast claimed in claim 3, wherein the electronic ballast is surrounded and protected by a case 1210 having a hole 1220 through which a lighting 30 fixture can be easily coupled at the center of the case.